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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,827	09/23/2003	Michael John Hamel	115-005	1348

7590 06/15/2005

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EXAMINER	
NGUYEN, TAI T	
ART UNIT	**PAPER NUMBER**
2632	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/668,827	HAMEL ET AL.	
	Examiner	Art Unit	
	Tai T. Nguyen	2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 September 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the specification did not disclose the use of a digital sensor and circuit.

Appropriate correction is required.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "circuit to detect changes in loading of said reader coil....." must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 4, 6, and 20 are objected to because of the following informalities:

Regarding claim 4, Applicant is required to disclose the use of the digital sensor in the specification to enable better understood to the examiner that is helping a lot during the examining process.

Regarding claim 6, applicant is require to disclose the use of a circuit for detecting change in loading of the reader coil to enable better understood to the examiner that is helping a lot during the examining process.

Regarding claim 20, applicant is require to disclose the use of providing a higher power to the sensor than is available from the coil to enable better understood to the examiner that is helping a lot during the examining process.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 5 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 5, applicant is required to clarify what intended by "reactive component switchably connected to switchably affect electromagnetic radiation radiated from said reader." The rejection of claim 5 below based on the best understood of examiner.

6. Claim 7 recites the limitation "said controller" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tremblay et al. (US 5,704,352) in view of Carney et al. (US 5,446,447).

Regarding claim 1, Tremblay et al. disclose an electronic system (figure 1), comprising a reader (15) and a remotely powered and remotely interrogated sensor transponder (14), the sensor transponder including a coil (20), a processor (16), a sensor (12), wherein the sensor can detect more than two values of a parameter, wherein the sensor transponder receives power radiated from the reader for powering

the sensor transponder, and further wherein the sensor transponder being capable of processing sensor data and transmitting sensor data to the reader using antenna (figure 1, col. 4, line 43 through col. 6, line 36). Tremblay et al. disclose the instant claimed invention except for the sensor transponder having a switched reactance circuit. Carney et al. teach a RF tagging (20) including a switched reactance circuit (figure 1, col. 5, lines 4-28). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the switched reactance circuit as taught by Carney et al. in the system as disclosed by Tremblay et al. for the purpose of resonating with a plurality of different frequency.

Regarding claim 2, as shows in figure 1, Tremblay et al. disclose the sensor (12) being an analog device.

Regarding claim 3, Tremblay et al. disclose the sensor transponder further including a A/D converter (col. 5, lines 6-11).

Regarding claim 4, Tremblay et al. disclose the sensor being an analog device (figure 1) but fail to use a digital sensor. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a digital sensor instead of analog sensor in order to provide a better/accurate sensing because it is just an obvious design choice.

Regarding claim 5, Carney et al. disclose the switched reactance circuit comprising a reactive component (40) switchably connected to switchably affect electromagnetic radiation radiated from said reader (figure 1).

Regarding claim 6, Tremblay et al. disclose the reader (15) includes a reader coil (30) for transmitting electromagnetic radiation and a circuit (34) to detect changes in loading of the reader coil as a result of switching of the switched reactance circuit (figure 1, col. 6, line 67).

Regarding claims 7-8, Tremblay et al. disclose the instant claimed invention except for the receiver coil comprise a tap (multiple taps). Carney et al. disclose receiver coil (24) comprises a multiple taps (50, 52) for providing power to the sensor (figure 1). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to include the multiple taps as taught by Carney et al. in the system as disclosed by Tremblay et al. for the purpose of providing multiple impedance matching with a plurality of frequencies in order to power up the transponder.

9. Claims 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tremblay et al. (US 5,704,352) and Carney et al. (US 5,446,447) as applied to claim 1 above, and further in view of Townsend et al. (US 2002/0024450).

Regarding claims 9 and 13, Tremblay, as modified, disclose the instant claimed invention except for the receiver coil and sensor transponder being located in a metal enclosure and wherein the receiver coil being tuned to receive radiation at a frequency sufficient low so a substantial portion of the radiation is able to penetrate through the metal enclosure, there being no feed through passing through the enclosure. Townsend et al. teach a data collection system (figure 1) including a receiver coil (38) and sensor transponder (22) located in a metal enclosure (20) that is hermetically

sealed and wherein the receiver coil being tuned to receive radiation at a frequency sufficient low so a substantial portion of the radiation is able to penetrate through the metal enclosure, there being no feed through passing through the enclosure (figure 1, paragraph 36). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the metal enclosure as taught by Townsend et al. in the system as disclosed by Tremblay et al., as modified, for the purpose of protecting the sensor transponder and increasing the reception of power radiated from the reader.

Regarding claims 10-12, Tremblay et al., as modified, disclose the instant claimed invention except for the operating frequency is less than 125 KHz, less than 44 KHz, or about 4 KHz. Townsend et al. teach the efficiency of coupling being reduced greatly by the presence of the metal implant between the transmitting and receiving coil, high frequency greater than 125 KHz and the most efficiency frequency of operation with the metal is 1.5 KHz (paragraph 50). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use frequency of less than 125 KHZ, 44 KHz, or 4KHz between transmitting and receiving coil for the purpose of increasing the efficiency of operation.

Regarding claim 14, Tremblay et al. disclose the sensor transponder being implanting in a living tissue (col. 4, lines 35-51).

Regarding claim 15, as mentioned on claim 13, Tremblay et al. disclose the sensor transponder being implanting in a living tissue but fail to disclose the sensor transponder being implanting in a bone. It would have been obvious to a person having

ordinary skill in the art at the time the invention was made to the sensor transponder implanting in a bone for the purpose of monitoring a desire parameter of a living bone that is need to be monitored.

Regarding claims 16-17, Tremblay et al., as modified, disclose the instant claimed invention except for the processor includes an integrated/RC clock. Townsend et al. disclose the processor (26, figure 1) includes a clock (paragraph 70). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use integrated/RC clock the as taught by Townsend et al. in the system as disclosed by Tremblay et al., as modified, for the purpose of allowing the processor to begin useful operation within clock cycles of getting a wakeup signal or transmitting sensor data to the reader.

Regarding claim 18, Tremblay et al., as modified, disclose the instant claimed invention except for the sensor transponder includes a non-volatile memory for storing sensor data. Townsend et al. teach the sensor transponder includes a non-volatile memory (28, figure 1) for sensor data. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to include the non-volatile memory as taught by Townsend et al. in the system as disclosed by Tremblay et al., as modified, for the purpose of storing sensor data to be transmitted later.

Regarding claims 19-20, Tremblay et al., as modified, disclose the instant claimed invention except for the sensor transponder includes an energy storage device and the providing a higher power to the sensor than is available from the receiver coil.

Townsend et al. teach the sensor transponder includes an energy storage device (36, figure 1). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to includes the energy storage device as taught by Townsend et al. in the system as disclosed by Tremblay et al., as modified, for the purpose of storing energy there after receiving energy transmitted from the read for later on use and providing higher power to the sensor than is available from the coil.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Montegrande et al. (US 2003/0225318), Stobbe (US 6,070,803), Kaiser (US 5,597,534), Schrott et al. (US 5,680,106), Milheiser (US 5,166,676), and Walton et al. (US 4,918,416).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tai T. Nguyen whose telephone number is (571) 272-2961. The examiner can normally be reached on Monday-Friday from 7:30am-5:00pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J. Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tai T. Nguyen
Examiner
Art Unit 2632

June 7, 2005